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**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

Docket Number (Optional)

09792909-4457

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SEPTEMBER 22, 2006

on \_\_\_\_\_

Signature Christopher P. RauchTyped or printed name CHRISTOPHER P. RAUCH

Application Number

09/496,656

Filed

FEBRUARY 3, 2000

First Named Inventor

SAITOH

Art Unit

1772

Examiner

SOW FUN HON

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

I am the

☐

applicant/inventor.

☐

assignee of record of the entire interest.

See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.  
(Form PTO/SB/96)☒

attorney or agent of record.

Registration number 45,034☐

attorney or agent acting under 37 CFR 1.34.

Registration number if acting under 37 CFR 1.34 \_\_\_\_\_

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SEPTEMBER 22, 2006

Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required.  
Submit multiple forms if more than one signature is required, see below\*.

☒\*Total of 1 forms are submitted.

This collection of information is required by 35 U.S.C. 132. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11, 1.14 and 41.6. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

**ARGUMENTS ACCOMPANYING PRE-APPEAL BRIEF REQUEST FOR REVIEW**

APPLICANTS: Yoshimasi Saitoh et al. OLD DOCKET NO.: P99,2475  
NEW DOCKET NO.: 09792909-4457  
SERIAL NO.: 09/496,656 GROUP ART UNIT: 1772  
DATE FILED: February 3, 2000 EXAMINER: Sow Fun Hon  
INVENTION: "METHOD OF FABRICATING LIQUID CRYSTAL DISPLAY  
DEVICE, AND LIQUID CRYSTAL DISPLAY DEVICE"

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

S I R:

These Arguments accompany a Notice of Appeal and a Pre-Appeal Brief Request for Review, all of which are filed in response to the Final Office Action of June 22, 2006. Please reconsider the application in view of the arguments presented below.

**ARGUMENTS**

Claims 1-11 and 13 are pending in the application. Claims 1-7 are withdrawn from consideration as being directed to a non-elected invention. Therefore, claims 8-11 and 13 are under consideration.

In the Final Office Action of June 22, 2006, the Examiner rejected claims 8-11 and 13 under 35 U.S.C. §103(a) as being allegedly unpatentable over *Gibbons et al.* (U.S. Patent No. 6,307,609) ("Gibbons") in view of *Park* (U.S. Patent No. 5,998,101) ("Park.")

As discussed in more detail below, Applicant submits the Examiner has made clear error in the rejections. Applicant respectfully requests that the application be allowed.

Referring to Applicants' Figures 1 and 2 as an illustrative example, Applicants' independent claim 8 claims subject matter relating to a UV-reactive film on a substrate 7 that is exposed to first polarized UV rays while the film is on the substrate 7 aligned parallel to a reference plane (left-hand image of Figure 2), and next to second polarized UV rays after the substrate 7 is rotated on the reference plane (right-hand image of Figure 2.) The device has a contrast ratio greater or equal to 138 effected by the above-described exposures to the first polarized UV rays and the second

polarized UV rays. The device has a pre-tilt angle greater than or equal to  $3.5^{\circ}$  effected by the exposure to the first polarized UV rays and the second polarized UV rays. The ratio of the exposure energy during the first polarized UV rays exposure to that of the second polarized UV rays exposure is 5:1. (*See*, Specification, page 9, line 1 - page 11, line 10; page 12, lines 4-7.)

Therefore, as claimed in claim 8, the substrate is rotated on the reference plane between UV ray exposures. As described in the specification, the first polarized UV ray exposure is used to control the intended liquid crystal orientation, then the substrate is rotated on the reference plane, and then the second polarized UV ray exposure is used to control the pre-tilt angle of the liquid crystal. (Specification, page 3, lines 12-23). Applicants' claimed device has beneficial characteristics from the substrate being rotated between UV ray exposures. Specifically, a stable pre-tilt angle is present in the liquid crystal and a contrast ratio greater than or equal to 138 is achieved. Further, a pre-tilt angle greater than or equal to  $3.5^{\circ}$  is also achieved. If, for example, the substrate is not rotated on the reference plane, and instead the radiation source is moved on an elevation angle relative to the reference plane, then the pre-tilt angle in the liquid crystal would not be as stable as in Applicants' claimed device and a lower contrast ratio would be achieved.

Applicants respectfully submit that the Examiner has made clear error by rejecting Applicants' claimed invention based on *Gibbons* in view of *Park*. Specifically, *Gibbons* in view of *Park* clearly fails to disclose or suggest Applicants' claimed ratio of exposure energy during a first polarized UV rays exposure to that of a second polarized UV rays exposure of 5:1.

As acknowledged by the Examiner, *Gibbons* does not disclose Applicants' claimed ratio of exposure energies of 5:1. (*Office Action of 6/22/2006*, page 3). Instead, *Gibbons* teaches exposure energy ratios of 4:1 or less. Specifically, *Gibbons* teaches the following ratios: Example 3 ratio 4:1 (*Gibbons* 12:25); Example 4 ratio 1:4 (*Gibbons* 12:49); Example 5 ratio 4:1 (*Gibbons* 13:6); Example 6 ratio 1:4 (*Gibbons* 13:29); Example 9 ratio 600mJ:892mJ (*Gibbons* 14:53-55); Example 10 ratio 790mJ:405mJ (*Gibbons* 15:12-14); Example 13 ratio 4:1 (*Gibbons* 16:33); Example 14 ratio 4:1 (*Gibbons* 17:13); and Example 15 ratio 4:1 (*Gibbons* 17:59). Thus, *Gibbons* clearly fails to disclose an exposure energies ratio of 5:1.

The Examiner argues that *Gibbons* suggests Applicants' claimed exposure energies ratio of 5:1, however Applicants disagree. As described above, *Gibbons* fails to disclose an exposure energy ratio greater than 4:1. Further, nowhere does *Gibbons* suggest using an exposure energy ratio greater than 4:1.

The Examiner argues that it would have been obvious to increase *Gibbons* ratio to 5:1 in order to provide a pre-tilt angle greater than or equal to 3.5. *Office Action of 6/22/06*, page 4. Applicants disagree. *Gibbons* discusses 16 examples, and in none of those examples does *Gibbons* describe a particular pre-tilt angle. Further, *Gibbons* also fails to name a particular pre-tilt angle in its Summary of the Invention and Detailed Description. The only place that *Gibbons* mentions a pre-tilt angle value is in its Background of the Invention, in which *Gibbons* generally states that known devices can have a pre-tilt angle of about 2-15 degrees. *Gibbons* 1:44. Thus, it is not out of the question to assume that, in *Gibbons*' 16 examples, the pre-tilt angle is only about 2.

The Examiner has used impermissible hindsight to allege that it would have been obvious to increase *Gibbons*' ratio to 5:1 to achieve a pre-angle of 3.5 or greater. Nowhere does *Gibbons* suggest how to achieve a pre-tilt angle of 3.5 or greater. And nowhere does *Gibbons* suggest that increasing *Gibbons*' exposure energies ratio greater than 4:1 will result in a pre-tilt angle of 3.5. In fact, *Gibbons* fails to even discuss how to use a particular exposure energy ratio to achieve a particular pre-tilt angle.

Therefore, *Gibbons* fails to disclose or suggest Applicants' claimed ratio of 5:1.

*Park* fails to discuss a ratio of exposure energy during a first polarized UV rays exposure to that of a second polarized UV rays exposure. Therefore, *Gibbons* in view of *Park* still fails to disclose or suggest Applicants' claimed exposure energies ratio of 5:1.

Accordingly, for at least these reasons, the Examiner has made clear error by rejecting claim 8 based on *Gibbons* in view of *Park*.

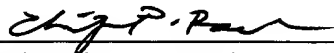
Claims 9-11 and 13 depend directly or indirectly from claim 8 and are therefore allowable for at least the same reasons that claim 8 is allowable.

Applicants respectfully submit the rejection has been overcome and request that it be withdrawn.

CONCLUSION

In view of the foregoing, it is submitted that claims 8-11 and 13 are patentable. It is therefore submitted that the application is in condition for allowance. Notice to that effect is respectfully requested.

Respectfully submitted,



(Reg. No. 45,034)

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